Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

tion that the valuable library had been rescued from the flames.

The Corresponding Secretary read a letter from the Secretary of the Linnean Society of London, dated November 23, 1843, acknowledging the reception of Nos. 26 to 29 of the Proceedings of the Academy.

On motion of Professor Johnson, Resolved, That the Publication Committee be authorised to present to Sir George Von Jaeger, of Wurtemberg, in Germany, the 2d Part of Vol. 8 of the Journal of the Academy.

Stated Meeting, February 13, 1844.

VICE PRESIDENT MORTON in the Chair.

DONATIONS TO MUSEUM.

Fine specimen of Fluate of Lime, from Lowville, New York. Presented by Mr. W. M. Rice.

Specimen, of large size, of Sulphuret of Copper, from Pennsylvania. From Dr. James Mease.

Fossil fucoid impressions, from Mifflin county, Pennsylvania. Deposited by Dr. Mease.

Professor Johnson communicated some observations in relation to the properties and habitudes of different varieties of coal.

1. He gave the results of some recent analyses of coal, which strongly confirm the position which he had previously advanced, viz.: that in coals from the same coal district, and where that part of the mineral substance which is combustible may be considered as similarly constituted, the *density* of different specimens may be considered as the index to their relative impurity.

From seven samples of coal from different mining districts were taken, at random, specimens for analysis.

							per ct.
From the first sample,	specimen	*a*	had a sp. gr.	1.438,	and gave	of ashes,	18.99
	specimen	*b*	"	1.424	"	"	18.318
" second do.	"	*a*	"	1.322	"	"	5.653
	"	*b*	"	1.305	"	"	5.239
" third do.	"	*a*	"	1.304	"	"	4.081
	"	*b*	"	1.309	"	"	6.519
" fourth do.	"	*a*	"	1.339	"	"	9.109
	"	*b*	"	1.325	"	"	7.398
" fifth do.	"	*a*	"	1.315	"	"	10·090
	"	*b*	"	1.335	"	"	11.071
" sixth do.	"	*a*	"	1.347	"	"	13.768
	"	*b*	"	1.329	"	"	11.071
" seventh do	"	*a*	"	1.511	"	"	21.250
	"	*b*	"	1.289	"	"	6.080

2. He also called attention to the fact that, from the same hand specimen, may often be obtained widely different results by analysis. A small specimen was shown, in which were displayed most decided differences of structure, lustre, colour, character of powder, amount of volatile matter, amount and character of impurities. This was a specimen of coal from the Cumberland coal field of Maryland—in which a portion was columnar and crystalline in form—of a deep jet black colour, shining and friable, giving a brown powder, and when coked, yielding a highly intumescent porous mass, and leaving, when completely incinerated, only 1.754 per cent. of reddish yellow or fawn coloured ashes, exceedingly light, and liable to be carried away by the slightest motion of air. The same part yielded 18.28 per cent. of volatile matter, and consequently left 79.966 per cent. of fixed carbon. The other part of the specimen was amorphous in structure, tough in consistence, dull, and almost destitute of lustre, yielding, when completely pulverized, an almost black powder. It gives, when incinerated, 14.736 per cent. of ashes, of a greenish white colour, very dense, and cohering slightly when strongly heated. Its volatile matter is 15.976 per cent., and consequently the fixed carbon 69.288. The coke produced swells more or less, according to the rapidity of the application of heat.

3. He adverted to the designations red and white ash coals, and exhibited proofs that mere analysis, on a minute scale, is liable to mislead us in regard to the true character of the earthy residua of the coals in question. He exhibited a sample of ashes and of clinker, from Lackawanna anthracite, obtained from the combustion of two tons of that coal; and also a specimen of ashes from the analysis of a hand specimen,—the former being dark brownish red, and the latter almost perfectly white.

4. He presented evidences of the effect of the rate of heating on the amount and character of the coke produced from a given weight of coal of the same kind, showing that when a brisk and intense action of heat is made the means

of coking the coal, a considerably greater amount of volatile matter is expelled than when a slow application of heat gradually drives off the matter volatilizable by that principle alone.

The Chairman announced to the meeting the recent decease (on the 10th inst.) of Dr. M. Burrough, late a member of this Institution, and one of its most zealous and active friends, and a large contributor to its collections in all the departments of Natural Science.

Whereupon the following Resolutions, presented by Professor Johnson, were unanimously adopted:

Resolved, That the members of this Academy have heard with unfeigned regret of the decease of our late valued and highly respected member, Dr. Marmaduke Burrough, whose zeal in the cause of Natural Science, persevering industry in the prosecution of its various departments, and deep interest in the welfare of this Institution, have laid it under numerous and lasting obligations to our deceased associate.

Resolved, That the members of this Academy deplore the loss of Dr. Burrough, not only as the ardent prosecutor of scientific researches, but as the undeviating man of honor, and highly accomplished gentleman.

Resolved, That the Vice President of this Society, Dr. S. G. Morton, be requested to communicate to the family of the deceased a copy of the foregoing Resolutions.

Stated Meeting, February 20, 1844.

MR. LUKENS in the Chair.

A communication was read from the American Philosoph. Society, acknowledging the receipt of Nos. 32, 33 of the Proceedings.

A letter was read from the Rev. John G. Morris, D. D., of Baltimore, dated February 19, 1844, acknowledging the reception of his notice of election as a Correspondent.